

ABSTRACT

The present invention has as its object to stably
produce a high strength electrical steel sheet and a
5 processed part of the same which is high in strength and
has wear resistant and is superior in magnetic flux
density and core loss without greatly changing the cold
rollability and production processes from those of
conventional electrical steel sheet and provides a high
10 strength electrical steel sheet characterized by
containing, by mass%, C: 0.06% or less, Si: 0.2 to 6.5%,
Mn: 0.05 to 3.0%, P: 0.30% or less, S or Se: 0.040% or
less, Al: 2.50% or less, Cu: 0.6 to 8.0%, N: 0.0400% or
less, and a balance of Fe and unavoidable impurities and
15 containing in the steel a metal phase composed of Cu of a
size of 0.1 μm or less. The method of production of the
same comprises holding in a temperature range of 300°C to
720°C for 5 seconds or more for heat treatment.